HUNTER VALLEY VZ JOURNAL

HV VZ USERS GROUP
� NEW ADDRESS ✕

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35 TIGHES TERRACE
TIGHES HILL
NSW   2297

PHONE - 049 611 474

APOLOGIES . . .

MY SINCEREST APOLOGIES TO ALL VZ JOURNAL READERS FOR THE VERY, VERY LATENESS OF THIS ISSUE. AS MENTIONED IN LAST ISSUE I HAVE A MEDICAL PROBLEM WHICH GOT MUCH WORSE NEAR COMPLETION OF MY NEW HOUSE. IT AFFECTED ALL MY JOINTS AND MADE LIFE UNBEARABLE FOR MANY MONTHS.

I HAD TO BE OUT OF MY LAST ADDRESS BY A CERTAIN DATE AND SO I PUSHED MYSELF AND AM STILL PAYING FOR IT NOW. I HAD MANY RELAPSES SINCE THEN BUT THANKFULLY I'M STARTING TO FEEL NEAR NORMAL. THE NEXT ISSUE SHOULD BE ON TIME AS I'VE LEARNED MY LESSON AND AM TAKING THINGS EASY.

NEXT/FUTURE ISSUE/S . . .

FINAL PART OF VZ FREQUENCY.
MULTIPLE USR CALL ROUTINE (USED IN VZ FREQUENCY).
MACHINE CODE DIRECTORY ROUTINE (USED BY VZ FREQUENCY).
MINI AMPLIFIER FOR THE VZ.
MANUAL DATA INPUT FOR VZ LOTTO.
JOURNAL INDEX PART II

FOR SALE - FOR SALE . . .

1 OFF VZ 300	1 OFF 16 MEMORY EXPANSION
2 OFF DISK DRIVES	1 OFF DISK CONTROLLER
1 OFF PRINTER INTERFACE	1 OFF JOYSTICK INTERFACE
1 OFF GREEN SCREEN MONITOR	1 OFF 8 BIT PORT (HV VZ J #30)
1 OFF LIGHT PEN	1 OFF MODEM AND INTERFACE
1 OFF DR20 TAPE DATA RECORDER	ASSORTED GAME CASSETTES

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PUBLIC DOMAIN SOFTWARE

IT HAS BEEN SUGGESTED TO ME THAT I ASSEMBLE A NUMBER OF DISKS CONTAINING PUBLISHED PROGRAMS, PUBLIC DOMAIN SOFTWARE, ETC AND OFFER TO READERS AT MINIMAL COST TO COVER EXPENSES. PLEASE LET ME KNOW YOUR IDEAS ON THIS AND WHAT TYPE OF SOFTWARE YOU WOULD LIKE. ED.

BACK ISSUES . . .

MOST BACK ISSUES ARE IN STOCK AND AVAILABLE AT FOLLOWING PRICES.

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FRONT COVER

IT SAYS IT ALL. I HAVE MOVED AGAIN, BUT NOT VERY FAR AND HAVE NO PLANS MOVING AGAIN UNLESS I WIN LOTTO OR SOMETHING SIMILIAR. IT IS VERY NICE HAVING A PLACE OF MY OWN AGAIN AFTER BOARDING FOR A COUPLE YEARS WITH MY BROTHER.

HELP - SELL & .ELL   PAGE 3

APOLOGIES, NEXT/FUTURE ISSUES, FOR SALE, PUBLIC DOMAIN SOFTWARE AND BACK ISSUES.

LIST UTILITY BY L MILBURN   PAGES 4-6

LIST IS A SMALL ROUTINE WHICH CAN BE CALLED FROM A BASIC PROGRAM AND LISTS A BASIC PROGRAM STORED ON DISK TO THE PRINTER (OR SCREEN AFTER A SMALL MOD) AND THE BASIC PROGRAM WILL KEEP RUNNING AFTER THE CALL.

DOS BUGS 2 BY L MILBURN   PAGE 6

THIS TIME LES HAS FOUND A BUG WITH THE DCOPY COMMAND AND SHARES HIS DISCOVERY WITH OTHER VZ USERS.

BASIC COMMAND ABBREVATIONS   PAGE 8
BY BOB KITCH

THERE ARE A NUMBER OF UNDOCUMENTED COMMAND ABBREVATIONS WHICH BOB BRINGS TO OUR ATTENTION AND CAN BE USED BY PROGRAMERS.

INVERSE CHARACTER SET   PAGES 7-10
BY BOB KITCH

THE SHAPES OF THE VZ INVERSE CHARACTER SET IS HELD IN ROM AND CONTAIN SOME ERRORS. IF YOU STUDY PAGE 10 YOU'LL SEE THEM. THE PROGRAM WILL ALLOW YOU TO A HAVE A LOOK AT YOUR OWN ROM AND SEE FOR YOURSELF.

BASIC & SOURCE CODE TO   PAGES 10-14
WP FILE BY D MITCHELL

THIS PROGRAM WAS NORMALLY AVAILABLE WITH DAVE MITCHELL'S E & F DISK WP PATCH3.3. IT CONVERTS BASIC PROGRAMS AND SOURCE CODE FILES TO DISK WP FILES. IT IS VERY FAST AND VERY EASY TO USE AND VERY USEFUL.

VZ NUMBERS FREQUENCY   PAGES 14-18

THIS PROGRAM IS DESIGNED TO KEEP TRACK OF WINNING AND/OR SUPPLEMENTARY NUMBERS IN POOLS AND GO LOTTO. WITH SOME MINOR MODIFICATIONS THIS PROGRAM COULD BE ALTERED TO KEEP TRACK OF OTHER NUMBER FREQUENCIES. OZ LOTTO MODS IN NEXT ISSUE.

VZ-EPSON PRINTER PATCH V1.4   PAGE 19
BY L TAYLOR - PUBLIC TAYLOR

THE INSTRUCTIONS FOR ABOVE ARE REPRODUCED FOR THOSE WHO HAVE PROGRAM BUT NOT THE INSTRUCTIONS.

NEW PUBLIC DOMAIN SOFTWARE   PAGE 20
USER GROUPS
CONTRIBUTIONS
SUBSCRIPTIONS

DISCLAIMER: EVERY EFFORT IS MADE TO INSURE THE ACCURACY OF INFORMATION CONTAINED WITHIN BE IT GENERAL, TECHNICAL, PROGRAMMING, ETC. NO RESPONSIBILITY CAN BE ACCEPTED BY HUNTER VALLEY VZ USERS' GROUP OR AUTHOR AS A RESULT OF APPLYING SUCH INFORMATION IN PRACTICE.

```
001 ;****************************
002 ;*   MACHINE CODE ROUTINE   *
003 ;* PRINTS A BASIC PROGRAM *
004 ;****************************
005 ;
006 ;NOT RELOCATABLE CODE.
007 ;
008 ;****************************
009 ;ROM SUBROUTINES.
010 ;
011 PCHR EQU   032AH
012 PINT EQU   0FAFH
013 FLNE EQU   1B2CH
014 PCR  EQU   20FEH
015 IMOD EQU   2828H
016 PMSG EQU   2B75H
017 DTOK EQU   2B7EH
018 PWON EQU   4008H
019 PWOF EQU   400BH
020 LOAD EQU   4041H
021 ;
022 ;****************************
023 ;BASIC PROGRAM POINTERS
024 ;
025 DVCE EQU   789CH
026 SBAS EQU   78A4H
027 BPTR EQU   78A7H
028 RTYP EQU   78AFH
029 EBAS EQU   78F9H
030 ARG  EQU   7921H
031 ;
032 ;****************************
033 ;CONSTANT DEFINITIONS
034 ;
035 VINT EQU   2
036 VSTR EQU   3
037 SDEV EQU   0
038 PDEV EQU   1
039 FTYP EQU   "T"
040 STAK EQU   7700H
041 ;
042 ;****************************
043 ;
044 ;CHECK ARG IS A STRING
045       CP    VSTR
046       JP    NZ,ERR
047 ;CHECK IF IMMEDIATE MODE
048       CALL IMOD
049 ;SAVE DOS VECTOR
050       LD    (DOS),IY
051 ;CLEAR FILENAME BUFFER
052       LD    DE,(DOS)
053       LD    HL,(DOS)
054       INC  HL
055       INC  DE
056       INC  DE
057       LD    (HL),32
058       LD    BC,7
059       LDIR
060 ;GET STRING ARG (FILENAME)
061       LD    HL,(ARG)
062 ;A=STRING LENGTH
063       LD    A,(HL)
064       INC  HL
065 ;IF STRING LEN=0, RETURN
066       CP    0
067       JR    Z,ERR
068 ;ENSURE STRING LEN <= 8
069       CP    9
070       JP    M,LP1
071       LD    A,8
072 LP1 LD    E,(HL)
073       INC  HL
074       LD    D,(HL)
075       EX    DE,HL
076 ;COPY FILENAME TO BUFFER
077       LD    DE,(DOS)
078       INC  DE
079       LD    C,A
080       LD    B,0
081       LDIR
082 ;SAVE STACK POINTER
083       LD    (STCK),SP
084 ;SET STACK PTR TO FREE MEM
085       LD    SP,STAK
086 ;SAVE IMPORTANT BASIC PTRS
087       LD    HL,(SBAS)
088       PUSH HL
089       LD    HL,(EBAS)
090       PUSH HL
091       LD    HL,(BPTR)
092       PUSH HL
093 ;SET FILETYPE TO BASIC TYPE
094       LD    (IY+9),FTYP
095 ;LOAD FILE SPECIFIED FROM
096 ;DISK IN CURRENT DRIVE
097       CALL PWON
098       CALL LOAD
099 ;SAVE ERROR CODE.
100       PUSH AF
101       CALL PWOF
102 ;RESTORE THE ERROR CODE
103       POP  AF
104 ;WAS THERE A DISK ERROR?
105       CP    0
106       JR    NZ,ERR2
107 ;SET THE OUTPUT DEVICE TO
108 ;THE PRINTER
109       LD    A,PDEV
110       LD    (DVCE),A
111 ;SET THE BASIC INPUT BUFFER
112 ;TO OUR OWN BUFFER
113       LD    HL,IBUF
114       LD    (BPTR),HL
115 ;SEARCH FOR THE FIRST BASIC
116 ;PROGRAM LINE
117       LD    DE,0
118       CALL FLNE
119 ;SAVE FOUND LINE PTR
120       PUSH BC
121 LOOP POP  HL
122 ;BC = PTR TO NEXT LINE
123       LD    C,(HL)
124       INC  HL
```

LIST IS A SMALL ROUTINE WHICH LISTS A BASIC PROGRAM STORED ON DISK TO THE PRINTER (OR SCREEN AFTER A SMALL MOD).

SO WHATS NEW? I HEAR YOU ASK.

WELL, THE BEAUTY OF THIS UTILITY IS THAT IT CAN BE CALLED FROM A BASIC PROGRAM AND DOES NOT RE-ENTER IMMEDIATE MODE AFTER LISTING THE PROGRAM, (I.E. THE CALLING BASIC PROGRAM KEEPS RUNNING).

WHAT'S THE USE?

THE MAIN USE OF LIST IS TO PROVIDE AN EASY WAY TO LIST MANY BASIC PROGRAMS IN A "BATCH LIKE" PROCESS WITHOUT REQUIRING INTERVENTION BY THE USER.

HOW TO USE LIST.

(1) A CONTROLLING BASIC PROGRAM IS REQUIRED. IT MUST LOAD THE ROUTINE, SET UP THE USR ADDRESS AND PROVIDE THE FILENAMES OF THE PROGRAMS TO LIST.

(2) THE CONTROLLING BASIC PROGRAM MUST BE RELOCATED SUCH THAT ITS START ADDRESS IS ABOVE THE END ADDRESS OF ALL OF THE BASIC PROGRAMS IT IS LISTING.

(3) X=USR("FILENAME") IS THE SYNTAX REQUIRED TO LIST A FILE. AFTER THE CALL, X INDICATES WHETHER AN ERROR OCCURRED (NON-ZERO = ERROR).

RELOCATING A BASIC PROGRAM

THE EASIEST WAY TO RELOCATE A PROGRAM IS TO USE THE EXT12 UTILITY. AN ALTERNATIVE IS TO MOVE THE START OF BASIC POINTER AS DESCRIBED IN THE TECHNICAL MANUAL.

RUNNING A RELOCATED BASIC PROGRAM

IF YOU TRY TO RUN A RELOCATED BASIC PROGRAM AND YOU GET A SYNTAX ERROR TRY THE FOLLOWING:

```
SOB=(PEEK(30884)+256*PEEK(30885))-1
POKE SOB,0 OR POKE SOB-65536,0 IF SOB > 32767
```

NOW TYPE RUN

HERE IS AN EXAMPLE OF A CONTROLLING BASIC PROGRAM (NOTE THAT LIST.BIN IS LOCATED AT 29184)

```
10 BLOAD"LIST.BIN"
20 POKE30862,0:POKE30863,114
30 POKE29282,0 'FOR SCREEN LIST
40 X=USR("FILE1")
50 X=USR("FILE2")
60 X=USR("FILE3")
70 X=USR("ETC  ")
80 X=USR("ETC  ")
```

LIST SOURCE CODE ON NEXT 2 PAGES

44-7 BASIC COMMAND ABBREVIATIONS
BY BOB KITCH

A NUMBER OF ABBREVIATED FORMS OF BASIC COMMANDS WILL RUN ON THE VZ. THESE SHORTENED FORMS ARE NOT FULLY DOCUMENTED IN THE MANUALS ACCOMPANYING THE MACHINES; SO I HAVE SET THEM OUT BELOW. TRY THEM, AS THEY SAVE A LITTLE SPACE ON THE 32 CHARACTER LONG LINE. THEY SHOULD BE USED WITH CAUTION AS THEY CONTRIBUTE LITTLE TO PROGRAM READABILITY.

FULL COMMAND	ABBREVIATED COMMAND
10 REM A NON-EXECUTABLE LINE	10 ' A NON-EXEC....
20 PRINT"SEE THIS""	20 ?"SEE THIS"
30 SOUND 1,3:SOUND 2,5	30 SOUND 1,3;2,5
40 LET A=23	40 A=23
50 IF A=1 THEN GOTO 999	50 IF A=1,GOTO 999
	...OR...
	50 IF A=1,999
60 PRINT"ENTER VALUE":INPUT A	60 INPUT"ENTER VALUE";A

TO PUT THE INPUT "?" ANY WHERE ON THE SCREEN USE:

70 PRINT@488;:INPUT A

MULTIPLE NEXT STATEMENTS ARE NOT REQUIRED IF THEY FOLLOW EACH OTHER IN THE PROGRAM.

EDITOR'S NOTE:

THE USE OF (') INSTEAD OF REM SAVES TWO CHARACTER SPACES ON THE PROGRAM LINE BUT USES 3 BYTES OF MEMORY INSTEAD OF 1 BYTE.

THE USE OF (?) INSTEAD OF PRINT SAVES CHARACTER SPACES ON THE PROGRAM LINE, BUT ONCE ENTERED THE VZ CONVERTS IT TO THE PRINT STATEMENT. EACH NUMBERED LINE ON THE VZ CONSISTS OF 64 CHARACTER SPACES INCLUDING THE LINE NUMBER.

IT IS POSSIBLE BY USING (?) MANY TIMES ON A LINE TO FORCE THE VZ TO EXCEED THE 64 CHARACTER LIMIT. THE VZ WILL DISPLAY IT, BUT WILL NOT ALLOW EDITING OF THE EXTRA CHARACTERS/LINES AND IF YOU PRESS RETURN ON THE LINE THE EXTRA CHARACTERS/LINES WILL DISAPEAR.

WHEN RENUMBERING YOUR PROGRAM THE USE OF (') INSTEAD OF REM CAN CORRUPT YOUR PROGRAM AND BRING ON STRANGE RESULTS WHICH COULD BE DIFFICULT TO CORRECT FOR THE NOVICE PROGRAMMER. AS BOB MENTIONED USE THE ABREVIATED COMMANDS WITH CAUTION.

DISPLAY INVERSE CHARACTER SET
BY BOB KITCH

WHEN INVERSE CHARACTERS ARE SENT TO A DOT MATRIX PRINTER THE PRINTER SHIFTS TO GRAPHICS MODE AND REQUIRES A ROUTINE TO SUPPLY THE APPROPRIATE SHAPES TO THE HEAD. (NORMAL CHARACTERS ARE HELD IN THE PRINTERS ROM). IN THE VZ COMPUTER A TABLE OF SHAPES IS LOCATED AT 3B94H TO 3CD3H (15252 TO 15571 IN ROM.

THERE ARE 64 CHARACTERS, EACH USING 5 BYTES TO DEFINE THEIR GRAPHIC SHAPE. THE SHAPES MAY BE DECODED AND OUTPUT TO THE SCREEN AS IS DONE IN THIS PROGRAM. NOTE THERE ARE ERRORS IN THE ROM. THE 5 BYTES DEFINE A 5 BY 8 DOT MATRIX WHICH IS THE SHAPE OF THE CHARACTER, WHICH INCIDENTLY ARE NOT ORDERED ACCORDING TO THE ASCII CODE.

```
125        LD   B,(HL)
126        INC  HL
127 ;CHECK IF END OF PROGRAM
128        LD   A,B
129        OR   C
130        JR   Z,LEXX
131 ;SAVE PTR TO NEXT LINE
132        PUSH BC
133 ;BC = LINE NUMBER
134        LD   C,(HL)
135        INC  HL
136        LD   B,(HL)
137 ;SAVE LINE NUMBER
138        PUSH BC
139 ;HL = TOKENISED LINE PTR
140        INC  HL
141 ;SAVE LINE PTR. HL=LINE NO
142        EX   (SP),HL
143 ;PRINT THE LINE NUMBER
144        CALL PINT
145 ;OUTPUT A SPACE
146        LD   A,32
147        CALL PCHR
148        POP  HL
149 ;DETOKENISE STRING POINTED
150 ;TO BY HL
151        CALL DTOK
152 ;LIST LINE ON OUTPUT DEVICE
153        LD   HL,IBUF
154        CALL PMSG
155 ;OUTPUT A CR
156        CALL PCR
157        JR   LOOP
158 ;
159 ;EXIT FROM ROUTINE ON ERROR
160 ERR  LD   HL,1
161        JR   LEX1
162 ERR2 EQU  $
163 ;
164 ;RESTORE IMPORTANT BASIC
165 ;PROGRAM POINTERS
166        POP  HL
167        LD   (BPTR),HL
168        POP  HL
169        LD   (EBAS),HL
170        POP  HL
171        LD   (SBAS),HL
172        LD   HL,1
173        JR   LEX1
174 ;
175 ;EXIT FROM ROUTINE NO ERROR
176 LEXX EQU  $
177 ;
178 ;OUTPUT TWO CR'S
179        CALL PCR
180        CALL PCR
181 ;RESTORE IMPORTANT BASIC
182 ;PROGRAM POINTERS
183        POP  HL
184        LD   (BPTR),HL
185        POP  HL
186        LD   (EBAS),HL
187        POP  HL
188        LD   (SBAS),HL
189 ;RESET OUTPUT DEVICE TO
190 ;THE SCREEN
191        LD   A,SDEV
192        LD   (DVCE),A
193 ;HL=RET VALUE. ZERO=SUCCESS
194        LD   HL,0
195 LEX1 LD   (ARG),HL
196 ;SET RETURN ARG TYPE TO INT
197        LD   A,VINT
198        LD   (RTYP),A
199 ;RESTORE STACK POINTER
200        LD   SP,(STCK)
201        RET
202 ;
203 ;****************************
204 ;DATA STORAGE AREA
205 ;
206 IBUF DEFS 100
207 STCK DEFW 0
208 DOS  DEFW 0
```

DOS BUGS REPORT 2 IN (DSE) DOS V1.2 BY LESLIE MILBURN

I HAVE FOUND YET ANOTHER BUG IN DOS V1.2. THIS TIME IT IS TO DO WITH THE DCOPY COMMAND. IF DCOPYING A SINGLE FILE USING TWO DRIVES AND THE DESTINATION DISK IS WRITE PROTECTED, THE DESTINATION DRIVE IS LEFT SPINNING AND NO ERROR MESSAGE IS DISPLAYED.

IF ANYBODY HAS FOUND ANY OTHER BUGS IN ANY DOS SYSTEM, PLEASE INFORM THE EDITOR WHO CAN PASS THE INFORMATION ON TO OTHER USERS.

NOTE: IF WRITING TO EDITOR PLEASE NOTE NEW ADDRESS AND PHONE NUMBER WHICH IS SHOWN ON FRONT COVER.

```
460     COLOR BT%(I%)          :'***SET COLOUR OF BIT.
470      SET(HP%,VP%+I%)       :'***PLOT BIT.
480    NEXT I%
490 :
500 '***PREPARE FOR NEXT BYTE.
510   HP%=HP%+1              :'***INCREMENT HORIZONTAL POSITION.
520    IF BK%=5 THEN BK%=0 :HP%=HP%+CW%      :'***NEW CHARACTER.
530 NEXT AD%
590 GOTO 590
```

EDITOR'S COMMENTS:

THE VZ AS SOLD HAS A TANDY PRINTER COMPATIBLE BASIC ROM. FOR THOSE PERSONS WHO HAVE AN EPSON PRINTER COMPATIBLE EPROM THE ABOVE PROGRAM WILL PRINT THE INVERSE CHARACTERS UPSIDE DOWN. TWO MINOR CHANGES ARE REQUIRED TO FIX THE PROBLEM:

```
    OLD LINE: 230 VP%=3        OLD LINE: 470 SET(HP%,VP%+I%)
    NEW LINE: 230 VP%=11       NEW LINE: 470 SET(HP%,VP%-I%)
```

DISK USERS: ENTER THE FOLLOWING LINES FOR EXTRA FUNCTIONS.

```
590 GOTO 820
600 A$=INKEY$:A$=INKEY$:IF A$=""THEN 600
610 :
620 IF A$="U"THEN 700:'        ;GOES TO HI-RES SCREEN UPDATE
630 IF A$="S"THEN 710:'        ;GOES TO HI-RES SCREEN SAVE
640 IF A$="Q"THEN CLS:END:'    ;ENDS THIS PROGRAM
650 IF A$="^"THEN 800:'        ;GOES TO PROGRAM UPDATE ROUTINE
660 IF A$="&"THEN 810:'        ;GOES TO PROGRAM SAVE ROUTINE
670 GOTO 600
690 :
700 ERA"INV-ROM":'            ;ERASES HI-RES SCREEN FROM DISK
710 BSAVE"INV-ROM",7000,77FF:' ;SAVES HI-RES SCREEN TO DISK
720 GOTO 820
790 :
800 :ERA"INV.ROM":'           ;ERASES THIS PROGRAM FROM DISK
810 SAVE"INV.ROM":'           ;SAVES THIS PROGRAM TO DISK
820 SOUND 25,1:GOTO 600
```

TAPE USERS: ENTER ONLY THE FOLLOWING LINES AFTER LINE 610.

```
620 IF A$="S"THEN 800:'        ;GOES TO PROGRAM SAVE ROUTINE
630 IF A$="Q"THEN CLS:END:'    ;ENDS THIS PROGRAM
640 GOTO 600
690 :
800 CSAVE"INVERSE ROM":'       ;SAVES THIS PROGRAM TO TAPE
820 SOUND 25,1:GOTO 600
```

ON THE NEXT PAGE YOU'LL SEE TWO HI-RES SCREEN PRINTOUTS PRODUCED BY THIS PROGRAM. THE LEFT ONE IS OF A STANDARD VZ ROM WHILE THE RIGHT ONE IS OF A MODIFIED VZ ROM (EPROM). IF YOU STUDY THEM CAREFULLY YOU'LL NOTE THE ERRORS IN THE LEFT ONE THAT BOB MENTIONED. ANOTHER ADVANTAGE OF THE MODIFIED EPROM IS THAT IT WILL PRINTOUT TO AN EPSON COMPATIBLE PRINTER ALL THE VZ'S INVERSE AND GRAPHIC CHARACTERS.

MODIFIED VZ ROM (EPROM):

BESIDES ALLOWING LLISTING AND LPRINTING OF ALL INVERSE AND GRAPHIC CHARACTERS THE EPROM ALSO PROVIDES ALL THE EXTENDED BASIC FUNCTIONS HOBBLED IN THE ORIGINAL VZ ROM WHICH MEANS IT IS NO LONGER REQUIRED TO LOAD ANY EXTENDED BASICS.

WHEN INVERSE CHARACTERS ARE SENT TO A DOT MATRIX PRINTER THE PRINTER SHIFTS TO GRAPHICS MODE AND REQUIRES A ROUTINE TO SUPPLY THE APPROPRIATE SHAPES TO THE HEAD. (NORMAL CHARACTERS ARE HELD IN THE PRINTERS ROM). IN THE VZ COMPUTER A TABLE OF SHAPES IS LOCATED AT 3B94H TO 3CD3H (15252 TO 15571 IN ROM.

THERE ARE 64 CHARACTERS, EACH USING 5 BYTES TO DEFINE THEIR GRAPHIC SHAPE. THE SHAPES MAY BE DECODED AND OUTPUT TO THE SCREEN AS IS DONE IN THIS PROGRAM. NOTE THERE ARE ERRORS IN THE ROM. THE 5 BYTES DEFINE A 5 BY 8 DOT MATRIX WHICH IS THE SHAPE OF THE CHARACTER, WHICH INCIDENTLY ARE NOT ORDERED ACCORDING TO THE ASCII CODE.

THE FIRST BYTE DEFINES THE LEFT HAND EDGE OF THE CHARACTER WHICH IS THE FIRST PRINTED DURING A PASS OF THE PRINTER HEAD. IN TANDY PRINTERS THE MSB IS THE LOWERMOST PIN OF THE HEAD AND LSB IS THE UPPERMOST PIN. THE PINS ON EPSON PRINTER HEADS ARE ARRANGED IN THE OPPOSITE SENSE. THIS REQUIRES THAT THE BITS IN EACH BYTE BE REVERSED.

```
010  '****************************************************************
020  '***          DISPLAY INVERSE CHARACTER  SET IN ROM          ***
030  '***              AS USED BY DOT MATRIX PRINTER              ***
040  '***                BY R. B. KITCH   27/9/86                 ***
050  '****************************************************************
090  :
100  DIM MK%(7)  :'***VECTOR OF BIT MASK VALUES - POWERS OF 2
110  DIM BT%(7)  :'***VECTOR OF DECODED BITS FROM ROM VALUE.
120  :
130  '***FILL MASK VECTOR WITH POWERS OF 2 FOR DECODING.
140  FOR I%=0 TO 7 :MK%(I%)=2^I% :NEXT I%
150  :
160  '***INITIALIZE PARAMETERS - MAY BE CHANGED TO VARY SCREEN.
170  CC%=4     :'***CHARACTER COLOUR.  (1-4)
180  BC%=2     :'***BACKGROUND COLOUR. (1-4)
190  CS%=0     :'***COLOUR SET. (0-1)
200  CW%=3     :'***COLUMN WIDTH BETWEEN CHARACTERS.
210  SP%=16    :'***ROW SPACING FOR CHARACTERS.
220  HS%=0     :'***STARTING HORIZONTAL POSITION ON HI-RES SCREEN.
230  VP%=3     :'***STARTING VERTICAL POSITION ON HI-RES SCREEN.
240  HM%=127   :'***MAXIMUM HORIZONTAL POSITION. (0-127)
250  :
260  '***SET UP MAIN LOOP TO STEP THROUGH ROM FROM 3B94H-3CD3.
270  BK%=0                    :'***BYTE COUNTER FOR EACH CHARACTER.
280  HP%=HS%                  :'***SET HORIZONTAL POSITION TO START
290  MODE(1)  :COLOR,CS%      :'***SET HI-RES SCREEN AND COLOR SET.
300  FOR AD%=15252 TO 15571   :'***ROM ADDRESSES FOR SHAPE TABLE.
310     DV%=PEEK(AD%)         :'***DECIMAL VALUE IN ROM.
320  :
330  '***DECODE THE INDIVIDUAL BITS OF DV% AND STORE IN BT%().
340  '***THE MASK VALUES IN MK%() ARE "ANDED" WITH THE VALUE.
350  '***THE RESULT STORED IN BT%() IS THE "COLOUR" OF THE BIT.
360     FOR I%= 0 TO 7        :'***PROCEED FROM LSB TO MSB.
370        IF DV% AND MK%(I%) THEN BT%(I%)=BC% ELSE BT%(I%)=CC%
380     NEXT I%
390  :
400  '***CHECK THAT THERE IS ENOUGH ROOM TO PLOT CHARACTER.
410     IF BK%=0 AND HM%-HP%<4 THEN HP%=HS% :VP%=VP%+SP%:'*NEW ROW
420     BK%=BK%+1                :'***INCREMENT BYTE COUNTER.
430  :
440  '***OUTPUT BYTE TO SCREEN.
450     FOR I%=0 TO 7
```

```
001 ;BASIC AND SOURCE CODE
002 ;TO WORD PROCESSOR FILE.
003 ;BY D.MITCHELL - 07B00H
004         LD   SP,7AFFH
005         PUSH IY
006         LD   HL,(78B1H)
007         LD   BC,END-HO
008         PUSH BC
009         XOR  A
010         SBC  HL,BC
011         LD   (78B1H),HL
012         INC  HL
013         PUSH HL
014         XOR  A
015         LD   BC,33H
016         SBC  HL,BC
017         LD   (78A0H),HL
018         DEC  HL
019         LD   (78E8H),HL
020         LD   DE,HO
021         POP  HL
022         PUSH HL
023         XOR  A
024         SBC  HL,DE
025         EX   DE,HL
026         LD   B,33
027         LD   IX,LT
028 RC      LD   L,(IX+00)
029         LD   H,(IX+01)
030         PUSH BC
031         PUSH HL
032         PUSH HL
033         POP  BC
034         POP  IY
035         LD   L,(IY+00)
036         LD   H,(IY+01)
037         ADD  HL,DE
038         LD   A,L
039         LD   (BC),A
040         INC  BC
041         LD   A,H
042         LD   (BC),A
043         INC  IX
044         INC  IX
045         POP  BC
046         DJNZ RC
047         POP  DE
048         LD   (7200H),DE
049         LD   HL,HO
050         POP  BC
051         LDIR
052         POP  IY
053 L1      LD   HL,ERR
054         LD   (79ADH),HL
055         LD   A,0C3H
056         LD   (79ACH),A
057         LD   HL,7AE9H
058         LD   (78A4H),HL
059         CALL 1B4DH
060         LD   HL,(7200H)
061         JP   (HL)
062 LT      DEFW L1+1
063         DEFW HO+1
064         DEFW E1+1
065         DEFW L2+1
066         DEFW L3+1
067         DEFW L4+1
068         DEFW L5+1
069         DEFW L6+1
070         DEFW A0+1
071         DEFW L7+1
072         DEFW L8+1
073         DEFW L9+1
074         DEFW L10+1
075         DEFW L11+1
076         DEFW B0+1
077         DEFW L12+1
078         DEFW L13+1
079         DEFW L14+1
080         DEFW L15+1
081         DEFW L16+2
082         DEFW L17+2
083         DEFW L18+1
084         DEFW L18A+1
085         DEFW L19+1
086         DEFW E2+1
087         DEFW L20+1
088         DEFW L21+1
089         DEFW L22+1
090         DEFW IPUT+1
091         DEFW L23+1
092         DEFW ERR+2
093         DEFW M1+1
094         DEFW M2+1
095 HO      LD   HL,MES0
096         CALL 2B75H
097 L2      LD   HL,M1
098 L3      LD   (ADD),HL
099 M1      LD   HL,MES1
100         CALL 2B75H
101 E1      CALL IPUT
102 L4      CALL DLY
103         CALL 402CH
104         CP   2
105         JR   Z,S2
106 S1      OR   A
107         JP   NZ,400EH
108         LD   A,0DH
109         JR   S1
110 S2      LD   A,(IY+10)
111         CP   "T"
112         JR   Z,S3
113         CP   "S"
114         JR   Z,S3
115         LD   A,0CH
116         JR   S1
117 S3      LD   (IY+9),A
118         CALL 4041H
119         OR   A
120         JP   NZ,400EH
121         CALL 400BH
122         LD   A,(IY+9)
123         CP   "T"
124         JR   NZ,B0A
```

@ABCDEFGHIJKLMNO   @ABCDEFGHIJKLMNO

PQRSTUVWXYZ[\]↑←   PQRSTUVWXYZ[\]↑←

!"#$%&'()*+,-./   !"#$%&'()*+,-./

0123456789:;<=>?   0123456789:;<=>?

BASIC & SOURCE CODE TO WP FILE
CONVERTER BY DAVE MITCHELL

THIS UTILITY WHICH SOME OF YOU MAY KNOW AS BSTWP.F (BASIC AND SOURCE CODE TO WORD PROCESSOR FILE CONVERTER) IS USED IN CONJUNCTION WITH DAVE MITCHELL'S PATCH3.3 (DISK VERSION OF E & F WORD PROCESSOR). IT CAN ALSO BE USED WITH RUSSELL HARRISON'S VERSION OF DISK WORD PROCESSOR (WORDPRO).

AS THE NAME SUGGESTS THIS UTILITY CONVERTS BASIC PROGRAMS AND EDITOR ASSEMBLER ('S' FILE TYPE ONLY) SOURCE CODE FILES INTO WORD PROCESSOR FILES WHICH CAN BE LOADED INTO EITHER DISK WORD PROCESSOR. CONVERTING COULD'NT BE SIMPLER, IT'S JUST A MATTER OF ENTERING THE BASIC OR SOURCE CODE FILENAME AND ONCE LOADED ENTERING THE WP FILENAME. PRESSING RETURN WITHOUT FILENAME WILL PRESENT USER WITH DISK DIRECTORY IN 3 COLUMNS.

CONVERTING IS VERY FAST, DO'NT BLINK OR YOU MAY MISS IT. THE WP FILES ARE SAVED TO DISK WITH A 'W' FILETYPE WITH AN END ADDRESS OF D000H. BOTH BASIC AND SOURCE CODE FILES ARE PADDED OUT TO 5 DIGITS WITH LEADING ZEROES WHICH YOU MAY HAVE COME ACROSS IN THE JOURNAL ON NUMEROUS OCCASIONS.

AS YOU ENTER THE SOURCE CODE SAVE IT EVERY SO OFTEN SO YOU WON'T LOSE ALL YOUR TYPING. SAVE THE SOURCE CODE AS CONV.SRC AND THE OBJECT CODE AS CONVERT.

WARNING: YOU SHOULD BE AWARE THAT ANY GRAPHIC CHARACTERS IN YOUR CONVERTED BASIC PROGRAM WILL PRINT OUT AS GARBAGE AND IS A LIMITATION OF THE WORD PROCESSOR.

ANYONE WHO HAS TRIED THE PRINTER FUNCTION OF THEIR EDITOR ASSEMBLER WILL FIND THIS UTILITY VERY HANDY FOR PRINTING OUT SOURCE CODE FILES AS IT CAN TAKE ADVANTAGE OF ALL THE PRINTER FUNCTIONS OF PATCH3.3 OR WORDPRO HAS TO OFFER.

CONVERT VERSION 3.1A:

BRIAN GREEVE OF WA HAS MODIFIED CONVERT BY ADDING EXTRA FUNCTIONS MAKING IT VERY VERSATILE INDEED. THANKS BRIAN. CONV3.1A WILL CONVERT ALL SOURCE CODE FILETYPES, EG: S, A & W AS WELL AS QUICK WRITE 'F' WORD PROCESSOR FILES. OTHER OPTIONS ARE NUMBER OF DIGITS SELECT, 1-5 AND D000 OR FE00 WP FILE END ADDRESS FOR PATCH3.3 OR WORDPRO.

```
249          PUSH HL
250          POP  BC
251          INC  BC
252          LD   HL,0CFFFH
253          EX   DE,HL
254          POP  HL
255          LDDR
256          INC  DE
257          LD   (78A4H),DE
258          LD   HL,0D000H
259          LD   (HL),0
260          LD   (78F9H),HL
261 L18A     LD   HL,M2
262 L19      LD   (ADD),HL
263 M2       LD   HL,MES2
264          CALL 2B75H
265 E2       CALL IPUT
266          LD   (IY+9),"W"
267 L20      CALL DLY
268          IN   A,(13H)
269          BIT  7,A
270          JR   Z,S4
271          LD   A,4
272          JP   400EH
273 S4       CALL 4044H
274          OR   A
275          JP   NZ,400EH
276          CALL 400BH
277 EI       EI
278 L21      JP   HO
279 BTA      LD   BC,0606H
280 L22      LD   HL,(BUF1)
281          CALL 132FH
282          DEC  HL
283          LD   (HL),20H
284          INC  HL
285          RET
286 DLY      DI
287          CALL 4008H
288          LD   BC,0032H
289          CALL 4038H
290          RET
291 BR       PUSH IY
292          POP  HL
293          DEC  HL
294          LD   (78B1H),HL
295          LD   BC,65485
296          ADD  HL,BC
297          LD   (78A0H),HL
298          LD   HL,7AE9H
299          LD   (78A4H),HL
300          LD   A,0C9H
301          LD   (79ACH),A
302          CALL 1B4AH
303          JP   1A19H
304 IPUT     LD   HL,MES3
305          CALL 2B75H
306          CALL 053AH
307          JR   C,BR
308          LD   A,(DE)
309          CP   20H
310          JR   Z,DIR
```

```
311          LD   A,20H
312          LD   (DE),A
313          INC  HL
314          PUSH IY
315          POP  DE
316          INC  DE
317          LD   BC,8
318          LDIR
319          RET
320 DIR      CALL 01C9H
321          XOR  A
322          LD   (IY+11H),A
323          LD   (IY+12H),A
324          LD   (7AAEH),A
325 L23      CALL DLY
326 D1       DI
327          CALL 4035H
328          CP   11H
329          JR   Z,D7
330          OR   A
331          JP   NZ,400EH
332          LD   L,(IY+31H)
333          LD   H,(IY+32H)
334          LD   B,8
335 D2       LD   A,(HL)
336          OR   A
337          JR   Z,D7
338          PUSH BC
339          CP   1
340          JR   NZ,D3
341          LD   DE,16
342          ADD  HL,DE
343          JR   D6
344 D3       LD   B,10
345          EI
346 D4       LD   A,(HL)
347          INC  HL
348          CALL 033AH
349          DJNZ D4
350          LD   A,(7AAEH)
351          ADD  A,10
352          AND  20H
353          JR   NZ,D5A
354          LD   A,20H
355          CALL 033AH
356          JR   D5
357 D5A      LD   A,0DH
358          CALL 033AH
359          LD   A,1BH
360          CALL 033AH
361 D5       LD   DE,6
362          ADD  HL,DE
363 D6       POP  BC
364          DJNZ D2
365          INC  (IY+11H)
366          LD   A,(IY+11H)
367          CP   0FH
368          JR   NZ,D1
369 D7       CALL 400BH
370          EI
371          POP  BC
372 ERR      LD   BC,(ADD)
```

```
125          LD    DE,4                 187          JR    Z,B1
126          LD    HL,(78F9H)           188          LD    B,5
127          ADD   HL,DE                189   L13    CALL  C0
128   L5     LD    (BUF1),HL            190          LD    B,5
129   L6     LD    (BUF2),HL            191   L14    CALL  C0
130          LD    HL,(78A4H)           192          LD    B,12H
131   A0     CALL  EXIT                 193   L15    CALL  C0
132          LD    A,(HL)               194          JR    B4
133          INC   HL                   195   B1     LD    A,(HL)
134          LD    (7921H),A            196          CP    0FFH
135          LD    A,(HL)               197          JR    Z,B4
136          INC   HL                   198          CP    5BH
137          LD    (7922H),A            199          JR    NC,B3
138          PUSH  BC                   200          ADD   A,20H
139          PUSH  HL                   201   B2     LD    (DE),A
140   L7     CALL  BTA                  202          INC   DE
141   L8     LD    (BUF1),HL            203          INC   HL
142          LD    (78A7H),HL           204          JR    B1
143          POP   HL                   205   B3     RES   6,A
144          CALL  2B7EH                206          JR    B2
145          LD    HL,(78A7H)           207   B4     LD    A,0DH
146   A1     LD    A,(HL)               208          LD    (DE),A
147          OR    A                    209          INC   DE
148          JR    Z,A3                 210          LD    (DE),A
149          CP    40H                  211          INC   DE
150          JR    C,A2                 212   L16    LD    (BUF1),DE
151          CP    5BH                  213          INC   HL
152          JR    NC,A2                214          JR    B0
153          ADD   A,20H                215   C0     LD    A,(HL)
154          LD    (HL),A               216          CP    60H
155   A2     INC   HL                   217          JR    Z,C2
156          JR    A1                   218          CP    0FFH
157   A3     LD    (HL),0DH             219          RET   Z
158          INC   HL                   220          CP    5BH
159          LD    (HL),0DH             221          JR    NC,C1
160          INC   HL                   222          ADD   A,20H
161   L9     LD    (BUF1),HL            223          JR    C3
162          LD    HL,79E8H             224   C1     RES   6,A
163          LD    (78A7H),HL           225          JR    C3
164          POP   HL                   226   C2     LD    A,20H
165          JR    A0                   227          DEC   HL
166   B0A    LD    HL,(78F9H)           228   C3     LD    (DE),A
167          LD    (HL),0               229          INC   DE
168          INC   HL                   230          INC   HL
169          LD    (HL),0               231          DEC   B
170          LD    HL,8000H             232          JR    NZ,C0
171   L10    LD    (BUF1),HL            233          INC   HL
172   L11    LD    (BUF2),HL            234          RET
173          LD    HL,0A280H            235   EXIT   LD    C,(HL)
174   B0     CALL  EXIT                 236          INC   HL
175          INC   HL                   237          LD    B,(HL)
176          LD    (7921H),BC           238          INC   HL
177          PUSH  HL                   239          LD    A,B
178   L12    CALL  BTA                  240          OR    C
179          EX    DE,HL                241          RET   NZ
180          POP   HL                   242   L17    LD    DE,(BUF2)
181          LD    A,(HL)               243   L18    LD    HL,(BUF1)
182          CP    7BH                  244          LD    (HL),0DH
183          JR    Z,B1                 245          PUSH  HL
184          CP    7AH                  246          OR    A
185          JR    Z,B1                 247          SBC   HL,DE
186          CP    6AH                  248          JR    Z,EI
```

```
10 GOTO1000
12 ERA"--------":RETURN
14 REN"--------","--------":RETURN
16 OPEN"--------",0
18 IN#"--------",YR,WK,R,L$,P$:RETURN
20 FORI=1TOR
22 IN#"--------",C(I):NEXT
24 CLOSE"--------":RETURN
26 SAVE"--------":RETURN
34 :
36 ' "█▐█▐█▐█▐█▐█▐█▐█▐█▐█▐█▐█▐█▐█▐
38 :
40 FOR O=0 TO 7:POKE AD+O,ASC(MID$(N$+"          ",O+1,1))
42 NEXT:RETURN
44 :
46 FOR O=0 TO 2:POKE AD+O,ASC(MID$(X$,O+1,1)):NEXT:RETURN
48 :
50 CLS:POKE 30777,1:PRINT"████████████████████████████████████████████████";
52 IF M>0 THEN RETURN:'32 INVERSE SPACES ^^
54 PRINT@9,FR$:RETURN
58 :
60 PRINT@275,"N":PRINT@258,"ARE YOU SURE    ";:RETURN
62 :
64 PRINT@487,M$;:RETURN
66 :
68 PRINT@226,"SELECTED DRIVE >";D:RETURN
78 :
80 ND=0:FOR I=1 TO R:IF C(I)>0 THEN ND=1:I=R:'"█▐█▐█▐█▐█▐█▐█▐█▐
82 NEXT:IF ND=1 THEN RETURN
84 PRINT@393,"█▐█▐█▐█▐█▐█▐█▐█▐":SOUND 5,6:ND=0:RETURN
88 :
90 IF R=44 THEN PL$="LOTTO" ELSE PL$="POOLS"
91 PRINT@481,PL$;:PRINT" YR    WK";
92 PRINT@490,USING"##";YR;
93 PRINT@496,USING"##";WK;
94 PRINT@499,USING"% %";L$;
95 PRINT@503,P$;:RETURN
98 :
100 AD=31535:GOSUB 40:'POKE LINE 16 FILENAME
106 AD=31555:GOSUB 40:'POKE LINE 18 FILENAME
108 AD=31600:GOSUB 40:'POKE LINE 22 FILENAME
110 AD=31627:GOSUB 40:'POKE LINE 24 FILENAME
112 AD=31551:GOSUB 46:'POKE LINE 18 IN#/PR#
114 AD=31596:GOSUB 46:'POKE LINE 22 IN#/PR#
116 POKE 31545,X      :'POKE LINE 16 0 OR 1
118 :
120 IF U=2 THEN AD=31483:GOSUB 40:GOSUB 12:'POKE LINE 12 F'NAME
122 GOSUB 16:GOSUB 90:GOSUB 20
124 IF U=0 THEN 500 ELSE 400
148 :
150 M=0:GOSUB 50:GOSUB 90:'"█▐█▐█▐█▐█▐█▐█▐█▐
152 PRINT@247,YR:PRINT@226,"ENTER YEAR   (94-99) ";
154 INPUT YR:IF YR=0 THEN 300
156 IF YR<94 OR YR>99 THEN 152
158 :
160 PRINT@279,WK:PRINT@258,"ENTER WEEK   (00-52) ";:INPUT WK
162 IF WK=0 THEN 300
164 IF WK>52 THEN 160
168 :
170 PRINT@312,L$:PRINT@290,"ENTER (MON MID SAT) ";:INPUT L$
172 IF L$="" THEN 300
174 L$=LEFT$(L$,3):GOTO 300
```

```
373        PUSH BC          386 *     WRITTEN BY D.MITCHELL*
374        RET              387       DEFB 0DH
375 ADD    DEFW 0           388       NOP
376 BUF1   DEFW 0           389 MES1 DEFB 0DH
377 BUF2   DEFW 0           390 * ENTER B/S *
378 MES0   DEFB 1FH         391       NOP
379 *  THIS PROGRAM WILL MAKE WO  392 MES2 DEFB 0DH
380 *RD*                    393 * ENTER WP. *
381        DEFB 0DH         394       NOP
382 * PROCESSOR FILES FROM* 395 MES3 EQU  $
383 * BASIC AND  EDITOR ASSEMBL*  396 *FILENAME :*
384 *ER SOURCE CODES*       397       NOP
385        DEFB 0DH         398 END  NOP
```

VZ NUMBERS FREQUENCY

THIS PROGRAM IS DESIGNED TO KEEP TRACK OF WINNING NUMBERS IN POOLS AND
GO LOTTO. THERE IS A CHOICE OF PRIME NUMBERS ONLY OR CAN INCLUDE
SUPPLEMENTARY NUMBERS AS WELL.   WITH SOME MINOR MODIFICATIONS THIS
PROGRAM COULD BE ALTERED TO KEEP TRACK OF OTHER NUMBER FREQUENCIES.

THE LEFT PRINTOUT BELOW SHOWS GO LOTTO FREQUENCY NUMBERS FOR THE YEAR
OF 1994 UP TO THURSDAY, WEEK 7 WHILE THE ONE ON THE RIGHT IS FOR THE
SAME TIME PERIOD, BUT INCLUDES SUPPLEMENTARY NUMBERS AS WELL.

THERE ARE TWO INPUT CHOICES:

1)   INSERT - THIS ALLOWS YOU TO INSERT NUMBERS AS THEY ARE DRAWN
     AND/OR ADD TO EXISTING NUMBERS.
2)   EDIT   - IF YOU HAVE BEEN KEEPING TABS OF NUMBERS USING PENCIL AND
     PAPER THEN THIS OPTION WILL ALLOW YOU TO ENTER NUMBERS IN THE
     RANGE FROM 0 TO 9999 MAXIMUM.

ALSO TO THE BEST OF MY KNOWLEDGE THIS IS THE FIRST TIME THAT A 4 BYTE
MULTI USR CALL ROUTINE HAS BEEN USED IN A PUBLISHED PROGRAM WHICH WAS
DESCRIBED IN ISSUE # 31, PAGE 14. IT SIMPLIFIES THE CALLING OF M/C
ROUTINES WHICH ARE:

1)   VZ SOUND BEEPER.
2)   M/C CLS (CLEAR PART SCREEN - 14 LINES.)
3)   M/C DIRECTORY ROUTINE WHICH WILL BE PUBLISHED IN NEXT ISSUE.

```
356 IF C$="E"THEN 900
358 IF C$="D"THEN 500
360 :
362 IF C$="P"THEN 550
364 IF C$="C"THEN RUN
366 IF C$="Y"THEN 150
368 :
370 IF C$="Q"THEN 680
372 IF C$=";"THEN 960
374 IF C$=":"THEN 400
378 :
396 GOTO 350
398 :
400 M=0:GOSUB 50:' "█████████████
402 :
404 PRINT@073,"L) LOAD    DATA"
406 PRINT@105,"S) SAVE    DATA"
408 PRINT@137,"U) UPDATE DATA"
410 :
412 PRINT@201,"E) ERASE  FILE"
414 PRINT@233,"R) RENAME FILE"
416 PRINT@265,"I) INIT DISK"
418 :
420 PRINT@329,"D) DIRECTORY"
422 PRINT@361,"1) DRIVE 1/2"
424 PRINT@393,":) MAIN MENU    "
428 :
430 DRIVE D:PRINT@361,USING"#";DR
442 :
444 GOSUB 90:SOUND 25,1
446 POKE 30777,35
448 :
450 D$=INKEY$:D$=INKEY$:IF D$=""THEN 450 ELSE X=USR(13392)
452 :
454 IF D$="L"THEN U=0:GOTO 650
456 IF D$="S"THEN U=1:GOTO 650
458 IF D$="U"THEN U=2:GOTO 650
459 :
460 IF D$="E"THEN 600
462 IF D$="R"THEN 620
463 :
464 IF D$="D"THEN 850
466 IF D$="I"THEN 780
470 IF D$="1"THEN D=1:DR$="█":GOTO 430
472 IF D$="2"THEN D=2:DR$="█":GOTO 430
474 :
476 IF D$=":"THEN 300
494 :
496 GOTO 450
498 :
500 GOSUB 80:IF ND=0 THEN 326:' "█████████████████
502 M=0:GOSUB 50:GOSUB 90
508 :
510 E$="##":F$="#### ":PRINT@64,"";
518 :
520 IF R=38 THEN X1=10:Y1=30:ST=10
522 IF R=44 THEN X1=11:Y1=33:ST=11
524 FOR X=1 TO X1:FOR Y=0 TO Y1 STEP ST
526 IF R=38 THEN IF X+Y>38 THEN PRINT:GOTO 534
528 :
530 PRINT USING E$;X+Y;:PRINT"-";
532 PRINT USING F$;C(X+Y);
```

```
198 :
200 M=0:GOSUB 50:GOSUB 90:' "████████████
202 :
204 IF R=44 THEN PRINT@243,"L" ELSE PRINT@243,"P"
206 PRINT@226,"LOTTO OR POOLS ";:INPUT Y$
208 :
210 IF Y$="L"THEN R=44:P=8:PRINT@481,"██████";:GOTO 216
212 IF Y$="P"THEN R=38:P=7:PRINT@481,"██████";:ELSE 204
214 :
216 PRINT@275,"N":PRINT@258,"PRIME #'S ONLY ";:INPUT P$
218 :
220 IF P$="Y"THEN P$="PRIME ":P=6:GOTO 230
222 IF P$="N"THEN P$="PRIME+":GOTO 230 ELSE 216
224 :
230 X=USR(31348):'CLEAR PART SCREEN
232 L=98:FOR A=1 TO P
234 :
236 IF A<7 THEN PRINT@L,"ENTER WINNING #";A;"-> ";
238 IF A=7 THEN L=322
240 IF A>6 THEN PRINT@L,"SUPPLEMENTARY NUMBER ";
242 :
244 INPUT N(A)
246 IF N(A)=0 THEN A=P:GOTO 300
248 IF A<7 THEN IF N(A)>R THEN 236
250 IF A>6 THEN IF N(A)>R THEN 240
252 T=0:IF A<>1 THEN FOR I=1 TO A-1:T=T-(N(I)=N(A)):NEXT I
254 IF (T) THEN 236
256 L=L+32:NEXT
258 :
260 PRINT@441,"Y":PRINT@418,"ARE NUMBERS CORRECT   ";
262 :
264 INPUT Y$:IF Y$="Y"THEN 270
266 IF Y$="N"THEN 232 ELSE 260
268 :
270 FOR I=1 TO P:' "█████████████████████████
272 C(N(I))=C(N(I))+1:NEXT
274 :
276 PRINT@441,"Y":PRINT@418,"ENTER MORE NUMBERS    ";:INPUT Y$
278 :
280 IF Y$="Y"THEN 230
282 IF Y$="N"THEN 500 ELSE 276
298 :
300 M=0:GOSUB 50:' "█████████████████
302 :
304 PRINT@073,"I) INSERT  DATA"
306 PRINT@105,"E) EDIT    DATA"
308 PRINT@137,"D) DISPLAY DATA"
310 :
312 PRINT@201,"P) PRINT   DATA"
314 PRINT@233,"C) CLEAR   DATA"
316 PRINT@265,"Y) ENTER   YR/WK"
318 :
320 PRINT@329,"Q) QUIT & PARK"
324 PRINT@361,";) SUB  MENU"
326 PRINT@393,":) DISK MENU    "
342 :
344 GOSUB 90:SOUND 25,1
346 POKE 30777,35
348 :
350 C$=INKEY$:C$=INKEY$:IF C$=""THEN 350 ELSE X=USR(13392)
352 :
354 IF C$="I"THEN 200
```

BY LARRY TAYLOR - PUBLIC DOMAIN

The VZ-EPSON PRINTER PATCH allows EPSON or EPSON compatible printers to LPRINT or LLIST all of the VZ's inverse and graphics characters.

These same characters can also be dumped to the printer from the LO-RES screen, when the COPY command is used. In MODE(1), use of the COPY command will dump the HI-RES screen to the printer. In addition, an extension of the, COPY command has been provided. The new command is COPYA. If COPYA is used in MODE(0), a dump of the LO-RES screen will be made without the usual linefeeds, whilst in MODE(1), a larger than normal dump of the HI-RES screen will be printed. To cater to differences in line feeds between printers, both commands may be used in the form COPYn and COPYAn, where n is a value ranging from 4 to 8. Changing n allows selection of a line feed setting apppropriate to the printer being used. Should COPY or COPYA not be followed by a line feed value, then a default setting of 6 will be used.

Three additional commands, LTAB(n), PAGE(n) and FEED(n) have also been added. The LTAB(n) command is used to set a left margin for any output to the printer, whether from an LPRINT statement, during LLISTing of a BASIC program or when doing a screen dump. The value n may be in the range 0 to 63, indicating the number of spaces in from the left that printing will occur. A printout of the disk directory at the current LTAB(n) position can be obtained by first setting the output device code to printer, followed by the DIR command. eg. POKE30876,1:DIR

PAGE(n) sets the page length and n may be in the range 0 to 127. FEED(n) sets the number of linefeeds between the end of printed text and the end of the page. It can be in the range from 0 to 127, but unless it is less than the page length, it will be ignored. Setting a valid linefeed value, causes a form feed to occur automatically. If n is set to 0 then the automatic form feed is switched off. LTAB(n), PAGE(n), FEED(n), LLIST, LPRINT and both the COPY commands may be entered either directly from the keyboard, or used from within a program, but will only function correctly whilst the PRINTER PATCH is present.

The utility locates and protects itself according to available memory, allowing BASIC programs to be loaded and worked on normally. When LLISTing a BASIC program, the routine is also able to recognize all of the hidden commands, which may have been entered using an EXTENDED BASIC. Although not dependent on it, the routine can be used with Steve Olney's EXTENDED BASIC already resident in memory and will not interfere with it in any way. To use it in this way, first load the extended BASIC and then the PRINTER PATCH. Once the READY message appears you will have access to both the EXTENDED BASIC and the improved printer commands.

```
534 NEXT Y:NEXT X
536 E$="":F$=""
542 :
544 PRINT@455,M$
546 IF INKEY$=":"THEN 300 ELSE 546
548 :
550 GOSUB 80:IF ND=0 THEN 326:'"███████████████"
552 M=1:GOSUB 50:PRINT@11,"███████████":GOSUB 90
554 :
556 GOSUB 60:INPUT Y$
558 IF Y$="N"THEN 300
560 IF Y$="Y"THEN 564 ELSE 556
562 :
564 E$="##":F$="**## "
566 LPRINT TAB(10)"VZ ";PL$;" YR ";USING E$;Y;
568 LPRINT" WK ";USING E$;W;:LPRINT" ";USING"%  %";L$;
570 LPRINT USING"%      %";P$:LPRINT
572 :
574 IF R=38 THEN X1=10:Y1=30:ST=10
576 IF R=44 THEN X1=11:Y1=33:ST=11
578 FOR X=1 TO X1:FOR Y=0 TO Y1 STEP ST
580 IF R=38 THEN IF X+Y>38 THEN 590
584 :
586 LPRINTTAB(10)USING E$;X+Y;:LPRINT"-";
588 LPRINT USING F$;C(X+Y);
590 NEXT Y:LPRINT
594 NEXT X:LPRINT
596 E$="":F$="":GOTO 300
598 :
600 M=1:GOSUB 50:PRINT@10,"████████████";:GOSUB 68:PRINT@258,EF$;
602 :
604 SOUND 30,1:INPUT N$
606 IF N$=""THEN 400
608 IF LEN(N$)>8 THEN 600
610 AD=31483:GOSUB 40:GOSUB 12
612 GOTO 400
618 :
620 M=1:GOSUB 50:PRINT@10,"████████████";:GOSUB 68
622 :
624 PRINT@258,"OLD FILENAME > ";:SOUND 30,1:INPUT N$
626 IF N$=""THEN 400
628 IF LEN(N$)>8 THEN 620
630 AD=31503:GOSUB 40
632 :
634 PRINT@290,"NEW FILENAME > ";:SOUND 30,1:INPUT N$
636 IF N$=""THEN 400
638 IF LEN(N$)>8 THEN 634
640 AD=31514:GOSUB 40
642 GOSUB 14:GOTO 400
648 :
650 IF U>0 THEN GOSUB 80:IF ND=0 THEN 424:'"████████████████████"
652 M=1:GOSUB 50
654 IF U=0 THEN PRINT@11,"████";
656 IF U=1 THEN PRINT@11,"████";
658 IF U=2 THEN PRINT@10,"██████";
660 PRINT"██████":GOSUB 90:GOSUB 68
662 :
664 PRINT@275,N$:PRINT@258,EF$;
666 INPUT N$:IF N$=""THEN 400
668 IF LEN(N$)>8 THEN664
```

- - CONTINUED NEXT ISSUE - -

DAVE MITCHELL

E & F WP PATCH 3.3   E & F WP PATCH 3.4
MENU & FILE COPIER   MENU & FILE COPIER 6000H
EXTENDED DOS V1.3   EXTENDED DOS   6000H
MONITOR   6000H   DISK FILE COPIER 6000H
DISK FILER & CATALOGUER

MARK HARWOOD

MARK 32 DATABASE   MARK 64 DATABASE
DISK EDITOR ASSEMBLER   VZ USER NEWSLETTERS - 22 ISSUES

LARRY TAYLOR

VZ EPSON PRINTER PATCH 1.4   ESCAPE RIVER   (LO/HI-RES ADVENTURE)
COPYPRO 4: FILE COPIER/PROTECTOR FACTORY   (EDUCATIONAL GAME)
COPYPRO 5: TWO DRIVE DISK ONLY   TOWER OF HANOI (EDUCATIONAL GAME)
DISK COPY 2: SINGLE DRIVE COPIER NAME THE TOWNS (EDUCATIONAL)
FILE SEARCH 2 (DISK/TAPE CONTENTS) MICROSCOPE   (EDUCATIONAL)
DISK MENU (MEMORY RESIDENT)   SNERTLE   (EDUCATIONAL MATHS)

BRIAN GREEVE : MACHINE CODE DATA 2

H.V. VZ U.G. : HUNTER VALLEY VZ JOURNAL

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PROCESSORS ARE LESLIE MILBURN QUICK WRITE, RUSSELL HARRISON WORDPRO AND DAVE
MITCHELL PATCH 3.3.

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MEETING DATES WILL BE ADJUSTED TO ACCOMODATE MEMBERS ABILITY TO ATTEND. WHETHER
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FIRST.

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